



Software Engineering

Lecture 3 – User Stories

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What is a User Story?

- User Stories are one of the core elements of the Agile methodology
- User stories provide rapid way of handling customer requirements instead of formal requirement documents.
- A user story is a description of functionality or part of functional (is a small piece of work) written in the everyday or business language which captures what a user does or needs to do and can be delivered during a sprint



user story component

- **A user story ID:** A number to differentiate this user story from other user stories.
- **User story value:** *Value* is how beneficial a user story might be to the organization creating that product.
- **User story Effort:** is the ease or difficulty in creating that user story.
- **User Story Point:** relative numbers that describe the amount of effort necessary to develop a user story



User Story - Formula

- user story will have, at a minimum, the following parts:
 - Title (recognizable name for the user story)
 - As a (type of user)
 - I want to (take this action - something)
 - so that (I get this benefit)
- The user story also includes a list of validation steps (*acceptance criteria*) to take so you know that the working requirement for the user story is correct:
 - When I (take this action), (this happens)



Example

Title Put stop on a check

As Nick,

I want to stop payment on a lost or stolen check,
so that I can avoid any unauthorized activity on
my account.

Value

Caroline
Author

Estimate



User Story Benefits

- FOR PROJECT MANAGERS:

- It helps to make the application architecture correctly;
- It reduces time of answering questions about the logic of the application to developers, designers, testers;
- It can be used as documentation and updated easily;

- FOR DESIGNERS:

- It gives insight into the amount of mock ups needed to cover the entire layout application;



User Story Benefits

- **FOR DEVELOPERS:**

- Features are the basis for writing acceptance tests with test-driven development (**TDD and BDD**); - later
- It helps avoid misunderstandings , and errors in the logic of the application;

- **FOR QA:**

- It serves as the basis for writing test cases and test scenarios;
- It helps quickly understand the logic of the application;

- **FOR CLIENTS:**

- Gives good understanding of an application and how it works;
- The client can describe the new functionality, using our user Story format that prevents misinterpretation of requirements;



USER STORIES AND THE INVEST APPROACH

- Great User Stories always fit the INVEST set of criteria by Bill Wake:
- **I**ndependent – they can be developed in any sequence and changes to one User Story don't affect the others.
- **N**egotiable – it's up for the team to decide how to implement them; there is no rigidly fixed workflow.
- **V**aluable – each User Story delivers a detached unit of value to end users.
- **E**stimable – it's quite easy to guess how much time the development of a User Story will take.
- **S**mall – it should go through the whole cycle (designing, coding, testing) during one sprint.
- **T**estable – there should be clear acceptance criteria to check whether a User Story is implemented appropriately.



velocity

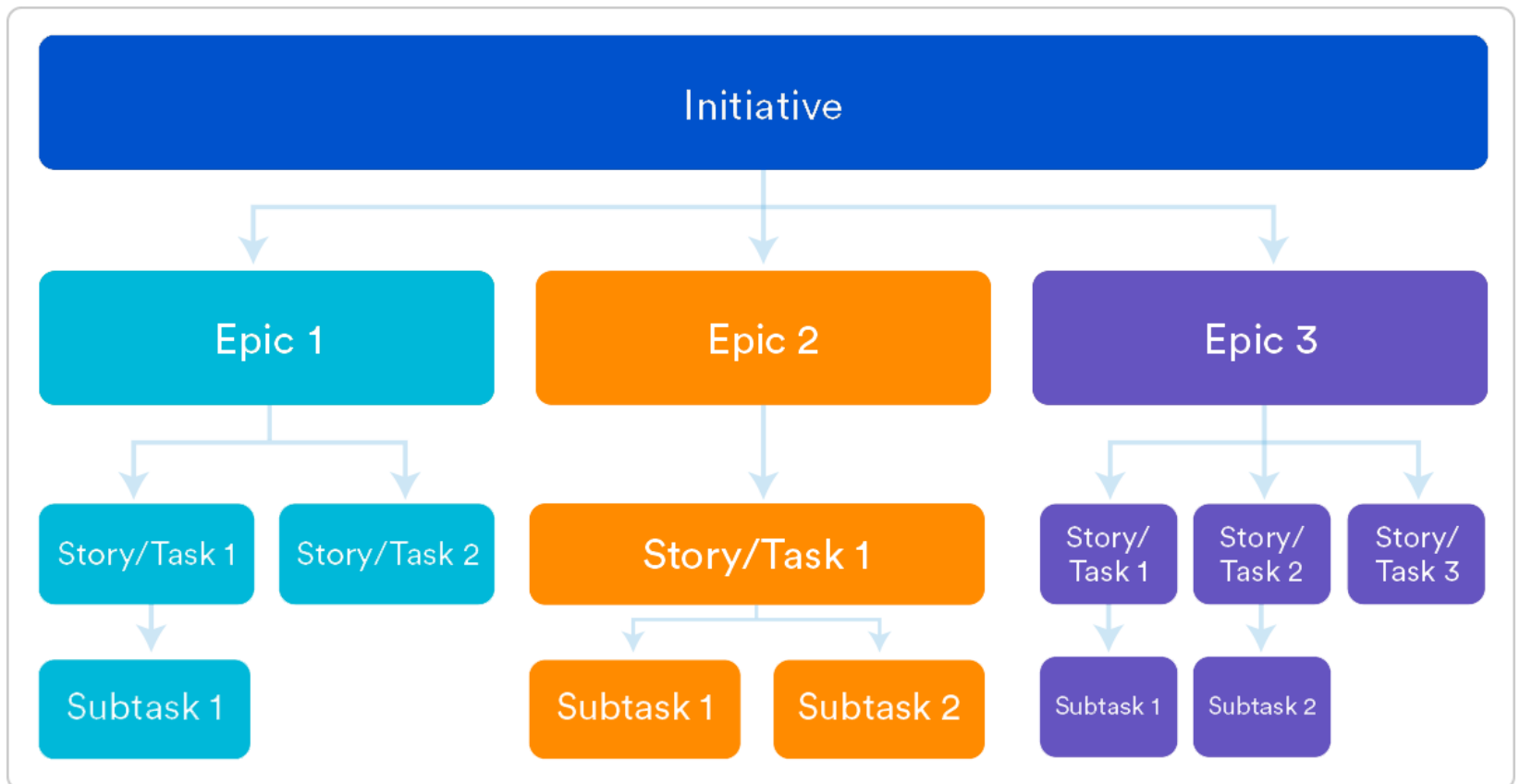
- a powerful tool for forecasting long-term timelines.
- *Velocity*, in agile terms, is a development team's **work speed**.
- You measure velocity by **the number of user story points that the development team completes in each sprint**.
- After a project starts, the scrum team starts to monitor its velocity. You measure velocity from sprint to sprint.
- Velocity is not a performance metric, **is team-specific**, and should not be used outside the scrum team.
- The *average velocity* is the total number of story points completed, divided by the total number of sprints completed.



The Epic



- sometimes user stories grouped together. So when working with them you are likely to meet and use the concept of an **Epic**
- Epics provide us with a high-level view of our goals and how we're moving towards them. It also helps us during the prioritization process since we can check which Epics require our attention the most and, therefore, which Stories should be implemented first.

The Epic





Epic VS. User Story format

A Story 	An Epic 
The smallest unit of work; can't be split	Can be broken down into more specific and smaller elements - User Stories
Fit a shippable product increment that should be delivered during 1 sprint	May be implemented during a few sprints
Represents some value that user will get after implementation	Indicates a more general task (for example, implementation of a whole user-flow)
Quite easy to estimate	Harder to estimate since the scope is flexible



User Story format

- *As a [type of user], I want [an action] so that [a benefit/a value]*



User Stories example

- As a driver, I want to add photos of my car in my profile so that I can attract more users.
- As a driver, I want to block badly behaved passengers so they are never shown me again.
- As a passenger, I want to link the credit card to my profile so that I can pay for a ride faster and without cash.
- As a passenger, I want several available drivers to be displayed so that I can choose the most suitable option for me.



Acceptance criteria

- An acceptance criteria is a set of conditions that are used to confirm when a Story is completed.
- these conditions provide us with a deeper and better understanding since they include key info on how Stories perform.



Example

Source: https://tech.gsa.gov/guides/user_story_example/

EPIC	USER STORY	ACCEPTANCE CRITERIA
As an Acquisition Gateway User , I need to access the Acquisition ordering platform behind a secure login so that I can purchase products.	As an Acquisition Gateway User , I need to select an Auction product in the Acquisition ordering platform so that I can bid on it.	Ensure the Acquisition Gateway User is able to: <ul style="list-style-type: none">• log in to Acquisition Gateway• navigate to the Auction page• able to select a product(s) to bid on
	As an Acquisition Gateway User , I need to review my previous bids in the Acquisition ordering platform so that I can remove expired bids.	Ensure the Acquisition Gateway User is able to: <ul style="list-style-type: none">• log in to Acquisition Gateway• navigate to a page to review items previously bid upon• select one, or multiple, expired bids• remove expired bids



Example 4

As a Marketing Lead , I want to have a content management system so that I can manage and provide quality content and experience to my readers.	As a Content Owner , I want to be able to create product content so that I can provide information and market to customers.	Ensure the Content Owner is able to: <ul style="list-style-type: none">• log in to the content management system• create a page of content• edit / update an existing page of content• save changes• assign content page to Editor for review
	As an Editor , I want to review content before it is published so that I can assure it is optimized with correct grammar and tone.	Ensure the Editor is able to: <ul style="list-style-type: none">• log in to the content management system• view existing content page• edit / update page of content• add markup comments- save changes• save changes• re-assign to Content Owner to make updates• schedule content publish



Example 4

<p>As a HR Manager, I want a virtual job openings board so that I can view job status and manage company personnel needs.</p>	<p>As a HR Manager, I need to view a candidate's status so that I can manage their application process throughout the recruiting phases.</p>	<p>Ensure the HR Manager is able to:</p> <ul style="list-style-type: none">• log in to the virtual job openings board system• view / edit / add the status for job candidates• update for each phase (e.g. Phone Screening Completed, In-person Interview Scheduled, Background Check in-progress, etc.)• send email communication to staff regarding candidate
<p>As a Marketing Data Analyst, I want to create forecast and trend reports so that I can support the sales efforts of Region 9 Marketing Representatives.</p>	<p>As a Marketing Data Analyst, I need to run the Salesforce & Google analytics reports so that I can build the monthly media campaign plans.</p>	<p>Ensure the Marketing Data Analyst is able to:</p> <ul style="list-style-type: none">• access the Salesforce & Google Analytics reports• create the monthly media campaign plan for a specified region (e.g. Region 9)• access a Contacts list• email the prepared monthly media campaign to one or more selected contact(s)



Example 1

Title Transfer money between accounts

As Carol,

I want to transfer funds between accounts

so that each account has the correct amount of funds

Value

Jennifer
Author

Estimate



Example 1

Title Transfer money between accounts

As Carol,

I want to transfer funds between accounts

so that each account has the correct amount of funds

<u>Value</u>	<u>Jennifer</u>	<u>Estimate</u>
	Author	

When I do this:

When I view my account balances,

When I select the transfer option,

When I select the "transfer from" option,

When I select the "transfer to" option,

This happens:

I see an option to transfer funds.

I choose between which accounts I want to transfer funds.

I see a list of my available accounts and balances.

I see a list of my available accounts and balances.



Example 2


User story: *As a user, I want to be able to register online, so that I can start shopping online.*



Example 2

User story: *As a user, I want to be able to register online, so that I can start shopping online.*

Acceptance criteria:

- ☐ User can only submit a form by filling in all required fields
- ☐ The email user provided must not be a free email
- ☐ Submission from same IP can only be made three times within 30 minutes
- ☐ 
- ☐ User will receive a notification email after successfully registration



Example 3

- Example: For a user story:
 - As a passenger, I want several available drivers to be displayed so that I can choose the most suitable option for me.
- Acceptance Criteria
 - When I open the order page, the app shows drivers that were online within last 20 minutes and don't have an ongoing ride.
 - When I open the order page, The app shows only 5 drivers that are closest to the user.
 - When I click on driver name, a user can browse profiles of these drivers, including their photos and rates.



Assignment - 1

Write the acceptance criteria for the following user stories

Id	User Story	Acceptance Criteria
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1	As a new user, I want to register by creating a username and password so that the system can remember me and my data.	1 ?????
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2	As a registered user, I want to log in with my username and password so that the system can authenticate me and I can trust it.	2 ?????
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